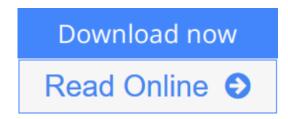# ASIC Design in the Silicon Sandbox: A Complete Guide to Building Mixed-Signal Integrated Circuits

By Keith Barr

ASIC Design in the Silicon Sandbox: A Complete Guide to Building Mixed-Signal Integrated Circuits By Keith Barr

Discover How to Design, Build, and Optimize Customized Mixed-Signal Integrated Circuits for a Wide Variety of Uses

Both inspirational and practical, *ASIC Design in the Silicon Sandbox* offers electronics engineers a hands-on guide to mixed-signal circuits and layouts. The book provides a detailed roadmap for designing and building custom circuits that are optimized for target devices, providing enhanced functionality and lowered cost in finished products.

Written by circuit design expert Keith Elliott Barr, this complete resource covers everything from design and optimization methods to standard cell layouts to packaging and testing. Readers will find easy-to-apply information on peripheral circuits; specialty logic structures and memory; logic, binary mathematics, and processing; converters and switched-capacitor techniques; and much more. Filled with hundreds of helpful illustrations, *ASIC Design in the Silicon Sandbox* features:

- A wealth of full-color standard cell layouts
- Multiple approaches to amplifier, oscillator, bandgap, and other analog functions
- Down-to-earth information on integrated circuit fabrication costs
- Real-world advice on designing and optimizing custom integrated circuits
- Practical examples of how to think through new design concepts
- Step-by-step guidance on entering the fabless semiconductor industry

Inside This Cutting-Edge IC Design Reference

• The Sandbox • Fabs and Processes • Economics • Design Tools • Standard Cell Design • Peripheral Circuits • Specialty Logic Structures and Memory • Logic, Binary Mathematics, and Processing • Analog Circuits: Amplifiers • The Bandgap Reference • Oscillators, Phase Locked Loops, and RF • Converts and Switched-Capacitor Techniques • Packaging and Testing • Odds and Ends

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Editorial Review

From the Back Cover

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About the Author

Keith Barr has founded two successful companies, which were both engaged in the design, manufacture, and international sales of electronic equipment for the music industry.

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From reader reviews:

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